



Charles E. Ester III

Surface Water Resources
P.O. Box 52025, PAB 120
Phoenix, AZ 85072-2025
E-mail: ceester@srpnet.com

Marlene H. Dortch
Office of the Secretary
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

June 21, 2016

**RE: A letter in response to Proceeding Number RM-11681, A Petition for Rulemaking:
Ligado's Request to Allocate the 1675-1680 MHz band for Terrestrial Mobile Use Shared With
Federal Use**

To whom it may concern:

I am writing on behalf of the Salt River Project, Phoenix, Arizona, to strongly oppose the reallocation of the 1675-1680 MHz frequency band from meteorological and hydrological use to shared broadband use.

Salt River Project (SRP) is a major water and electric power provider in the Phoenix metropolitan area and our operations are highly weather sensitive. Winter storms can rapidly increase inflows into the six reservoirs we manage on the Salt and Verde rivers in Arizona. Summertime thunderstorms bring drenching rains, dangerous lightning and damaging winds to our electric service area in the Phoenix metro area. Real-time weather satellite imagery is essential to our operators and meteorologists monitoring storms. We also use this imagery routinely 24 hours a day, 7 days a week for weather monitoring and forecasting.

SRP uses the portion of the 1675-1710 MHz band assigned to receive Imager data from the GOES West satellite through our Sea Space ground station. We installed our first GOES downlink in 1990 to send specially tailored images and animation loops to the SRP power and water operations areas. This weather satellite imagery is now integrated with radar, lightning, precipitation, streamflow and other weather data to give operators and emergency managers a complete and timely as possible view of current and future weather conditions on the Salt-Verde watershed and the Phoenix service area.

Also, SRP receives real-time precipitation and streamflow data from the U.S. Geological Survey that is collected using the GOES Data Collection System (DCS). These data are vital for our routine monitoring of watershed conditions and essential during any emergency flood operations. All of SRP's 6 reservoirs are classified as "high hazard" dams due to the public at risk downstream.

As SRP communication engineers point out, a band-sharing agreement within the 1675-1710 MHz range will not be effective because broadband wireless equipment has poor filtering. This will increase noise harmonics that will spill over into the satellite data range and render the data noisy and useless to SRP and our partners.

Any perception that all weather satellite data for water and power operations can be received online, through websites of agencies such as NASA and NOAA, is not correct and is a dangerous misconception. Data received via the internet has the following drawbacks:

1. These data are not “real-time.” “Real-time data” is defined as data that are received as close in time as possible to when the GOES satellite images an area. A direct broadcast satellite transmits the “picture” (image) it sees immediately after observation. Data received from NOAA and NASA via the internet may not be available for an hour or more after they are received. These “stale” data are useless for operational applications.
2. All data products may not be available. Each satellite takes multiple bands of data that are then processed into different resolutions and end products using scientific algorithms. Data available via the internet are usually already processed into certain products that may or may not fit the user’s needs. Also, NOAA does not disseminate all possible products. However, when receiving the raw data directly from the satellites, users can customize products and even create their own products. This decentralized approach is essential for successful support to water and power operations.
3. Internet data transmission requires vast amounts of bandwidth, not only by the user, but by the organization “serving” the data. We cannot speak to NOAA’s ability to provide thousands of large data sets daily to hundreds of users, but we do not think that ability currently exists. A huge infusion of capital investment will likely be required for an upgraded infrastructure to handle data that is now easily handled by direct broadcast satellites such as GOES. SRP’s costs could increase substantially if we must purchase new equipment and incur data subscription charges.
4. Internet data are not dependable during times of crisis, when operational agencies need critical data the most. A direct reception ground station can provide continuous data coverage in the absence of internet connectivity. In an emergency, such as fires, floods, and storms, a direct reception ground station is essential to SRP operations.

Clear use of the 1675-1710 MHz frequency band is critical to our mission of safely managing our dams, reservoirs and power infrastructure and providing reliable electric power and water to our customers. If even a portion of this band (e.g., the 1675-1680 MHz segment as proposed by Ligado) is transferred to the broadband community, our mission will be seriously compromised and irreparable damage may be done to SRP’s routine and emergency operations.

Sincerely,



Charles Ester
Manager, Surface Water Resources
Salt River Project